



SYSTEM X - 10

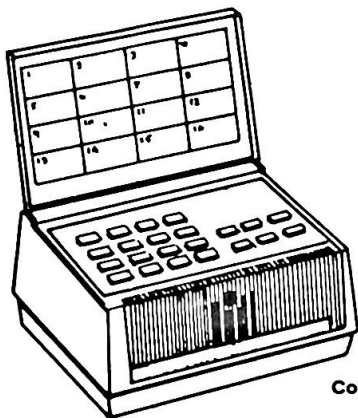
**FOR REMOTE CONTROL OF
LIGHTS AND APPLIANCES**

OWNERS MANUAL

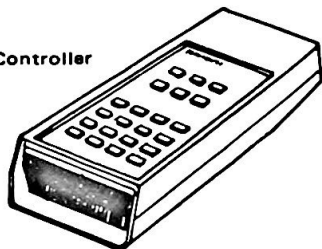
Model No.	Description
X10 - 014301	Ultrasonic Command Console
X10 - 014311	Command Console
X10 - 014401	Cordless Controller
X10 - 014501	Lamp Module
X10 - 014601	Appliance Module
X10 - 014701	Wall Switch Module

**Fig.
1:**

System Components

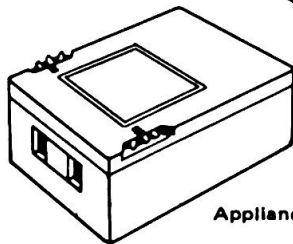
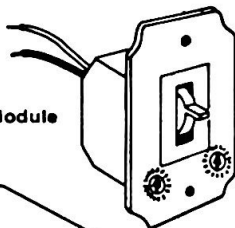


Cordless Controller

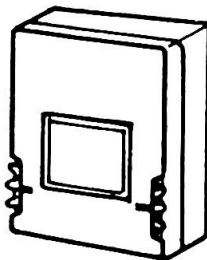


Command Console

Wall Switch Module



Appliance Module



Lamp Module

INTRODUCTION

You have just purchased a system of electronic components which remotely controls lights and appliances in your home or office without special wiring (see Fig. 1). Command signals are transmitted from the COMMAND CONSOLE over the existing electrical wiring.

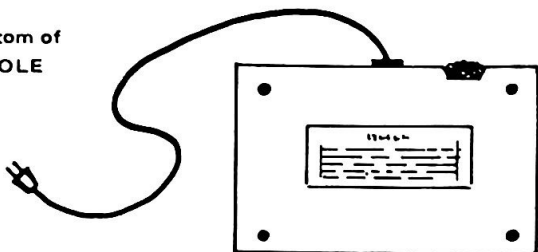
These components have been carefully engineered and manufactured utilizing advanced, custom-designed microprocessors (miniaturized electronic computers) and solid state circuitry. As a result, they can provide many unique features and dependable service.

Each system component and its operation are described in detail on the following pages. You will obtain the maximum in benefits, convenience and safety by reading this manual thoroughly before using your system.

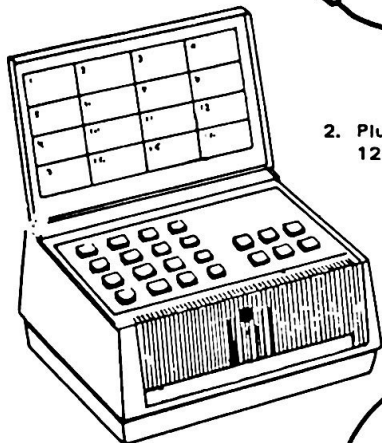
Easy Does It . . .

Before reading all the details, here's how to try your system quickly:

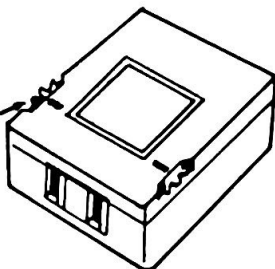
1. Set red dial on bottom of COMMAND CONSOLE to "A."



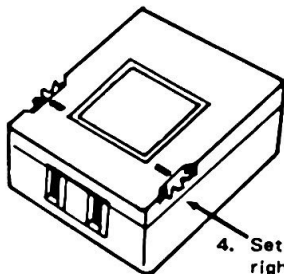
2. Plug command console into 120 Volt AC wall outlet.

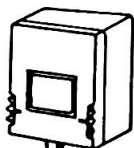


3. Set red dial on left of LAMP MODULE to "A"

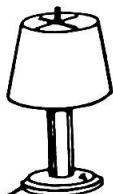
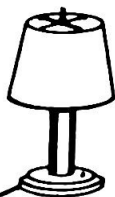


4. Set black dial on right of lamp module to "2."

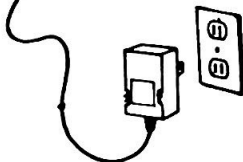




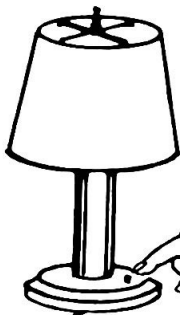
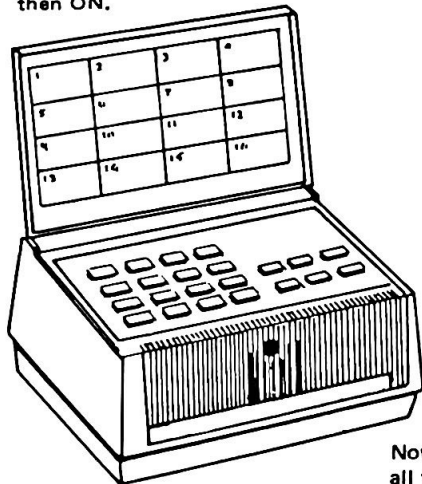
5. Plug lamp (300 Watts or less) into receptacle on bottom of lamp module.



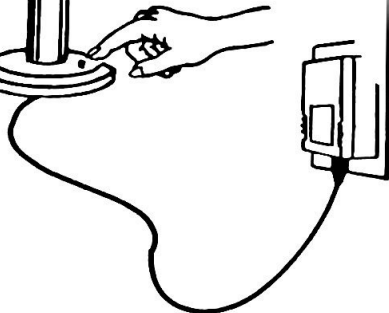
6. Plug lamp module into another 120 Volt AC wall outlet.



8. Open cover of command console. Press "2" key, then OFF key. Press DIM and hold it down until lamp is dim. Press BRIGHT key and hold it down. Press OFF, then ON.



7. Turn lamp switch until light goes on.



Now that you have your system working, read all the important details . . .

Fig.
2A:

Bottom of Command Console

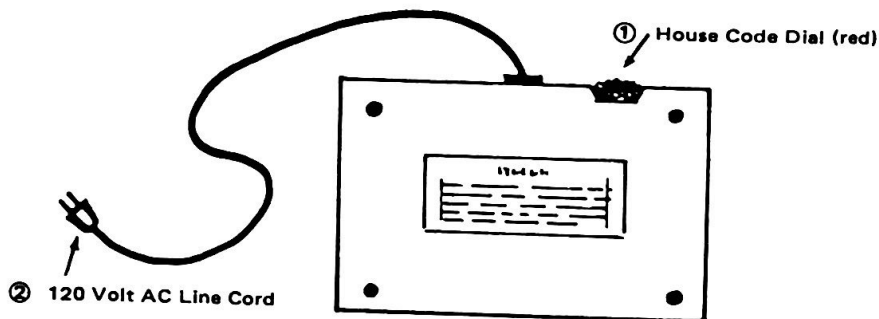
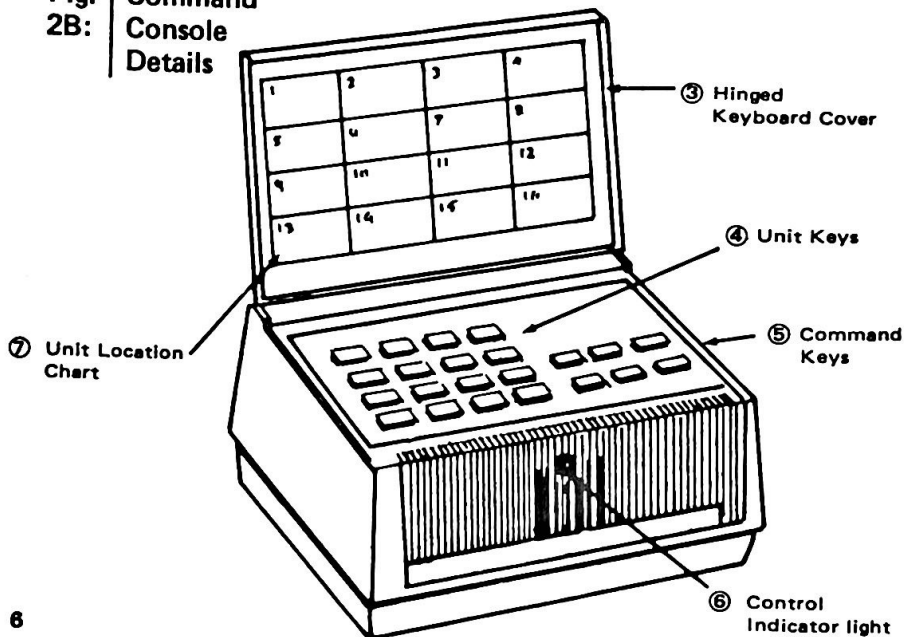


Fig.
2B:

Command Console Details



COMMAND CONSOLE DESCRIPTION AND INSTALLATION

- Refer to Figs. 2A and 2B.

- ① The HOUSE CODE DIAL (red) on the COMMAND CONSOLE selects one of 16 letters. All modules have a similar (red) house code dial. To be controlled by a particular command console, the modules are set to the *same* house code that you select for the command console.

Since you have 16 choices for the house code, you can set up several independent systems in one home or office – without interaction among them. Also, you can prevent interference with, or from, a neighbor's system by choosing a different code letter.

- ② To install your command console, plug its line cord into a standard 120 Volt AC wall outlet, and select a house code on the red dial.
- ③ Lift HINGED KEYBOARD COVER.
- ④ On left of keyboard are 16 UNIT KEYS, each one corresponding to the number set on the UNIT CODE DIAL (black) of each lamp, appliance, or wall switch module. For example, unit key "3" alerts the module(s) with the black dial set to "3."
- ⑤ On right of keyboard are 6 COMMAND KEYS:

ON	Sends "turn on" command to selected module.
OFF	Sends "turn off" command to selected module.
DIM	Sends "dim" command to selected lamp or wall switch module.
BRIGHT	Sends "brighten" command to selected lamp or wall switch module.
ALL LIGHTS ON	Sends "turn on" command to ALL controlled lamp and wall switch modules <i>simultaneously</i> . Does NOT affect controlled appliance modules.
ALL OFF	Sends "turn off" command to <i>every</i> controlled module, including appliance modules.

- ⑥ The CONTROL INDICATOR LIGHT glows red any time a unit or command key is pressed.
- ⑦ The UNIT LOCATION CHART is used to label the locations of controlled lights and appliances. There is one box for each unit key.

You can operate your entire system from any location in your home. One way is to move the command console from room to room. Or, plug in additional command consoles in several places (e.g., bedroom, living room, kitchen, den, etc.) and set the red house code dials to the same letter.

Fig. 3A: | Lamp Module Details

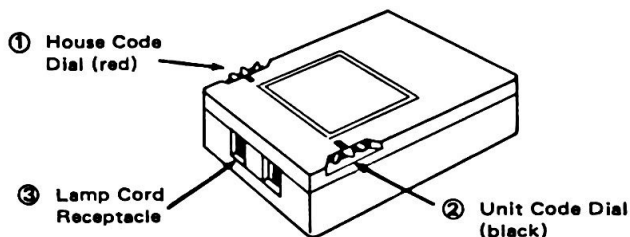
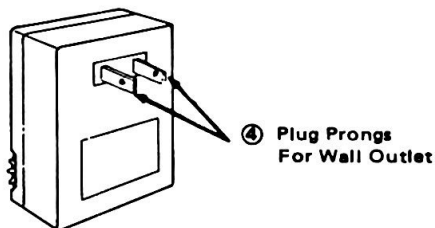


Fig. 3B: | Back of Lamp Module



LAMP MODULE DESCRIPTION AND INSTALLATION

- Refer to Figs. 3A and 3B

- ① The HOUSE CODE DIAL (red) is on the left. Set dial to *same* house code letter set on command console
- ② The UNIT CODE DIAL (black) is on the right. It assigns a unique number, from "1" through "16," to each module. The unit code you select corresponds to the same unit key on the command console.
- ③ Plug incandescent lamp to be controlled into lamp cord receptacle on bottom of lamp module.
- ④ Then plug lamp module prongs into standard 120 Volt AC wall outlet.

Now turn the lamp's regular on-off switch until the lamp goes on. The lamp is now ready to be controlled from the command console.

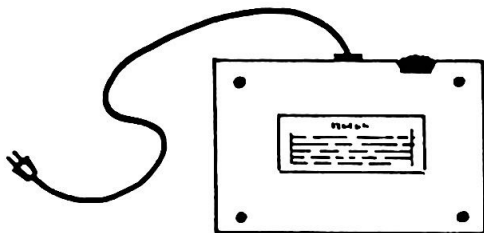
IMPORTANT PRECAUTIONS

1. DO NOT CONNECT APPLIANCES TO LAMP MODULES.
APPLIANCES, ESPECIALLY TV AND HI-FI SETS, WILL BE DAMAGED IF PLUGGED INTO LAMP MODULES.
2. DO NOT CONNECT FLUORESCENT LAMPS TO LAMP MODULES.
3. INCANDESCENT LAMPS ONLY, RATED UP TO 300 WATTS IN TOTAL, CAN BE PLUGGED INTO ONE LAMP MODULE. FOR EXAMPLE, A FLOOR LAMP WITH FIVE 60-WATT BULBS IN ITS FIXTURE USES 300 WATTS IN TOTAL AND IS O.K.

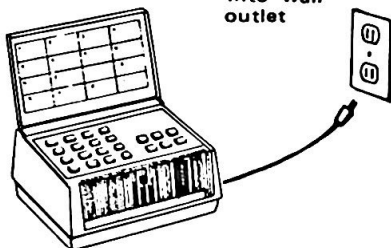
Fig.
4:

Set-Up for Lamp Module Operation

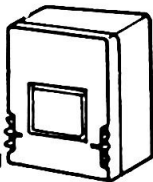
- ① Set house code dial (red) on command console to "A."



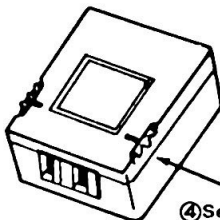
- ② Plug command console into wall outlet

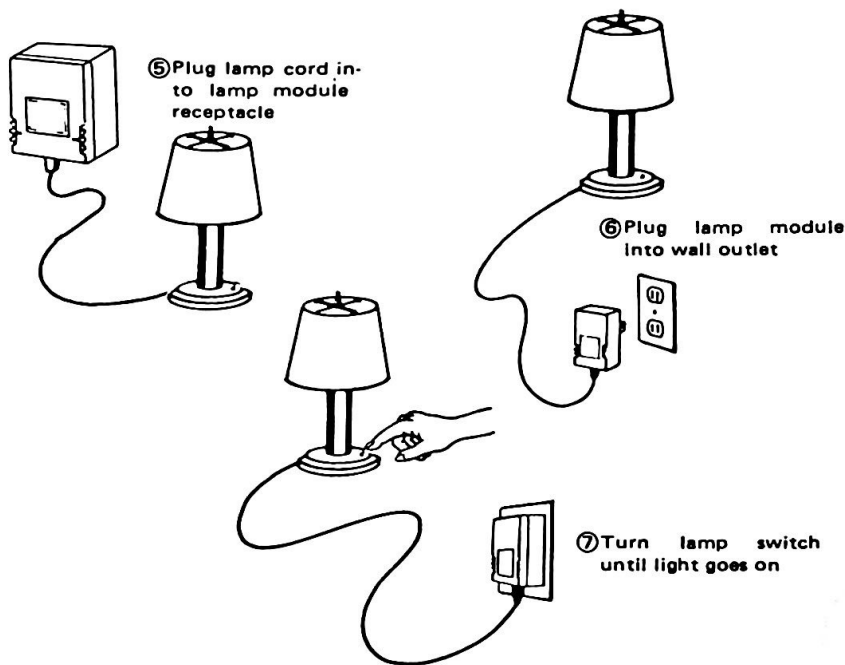


- ③ Set house code dial (red) on lamp module to "A."



- ④ Set unit code dial (black) on lamp module to "2."





LAMP MODULE OPERATION EXAMPLE

• Refer to Fig. 4

SET-UP

- ① Set house code dial (red) on command console to "A."
- ② Plug command console into any convenient 120 Volt AC wall outlet. At first, keep console in same room as lamp in order to observe lamp operation easily.
- ③ Set red house code dial on lamp module to "A" also.
- ④ Set black unit code dial on lamp module to "2."
- ⑤ Plug lamp into lamp cord receptacle on lamp module.
- ⑥ Plug lamp module prongs into 120 Volt AC wall outlet near lamp.
- ⑦ Turn regular lamp on-off switch until light goes on.

OPERATION

1. Press unit key "2," then command key OFF. The lamp light will go out.
2. Press DIM key and hold it down. Notice lamp turns on and starts to dim, becoming steadily dimmer until you release the DIM key.
3. Press BRIGHT key, holding it down until desired level of brightness is restored.
4. Press DIM again until lamp is very dim. Press OFF. Now press ON key and notice that lamp automatically returns to its normal brightness. Lamps are dim only when you want them to be dim.
5. With lamp on, press unit key "4" and then OFF. The lamp remains on. Once you press any other unit key between commands to lamp "2," you must press "2" again before sending commands to lamp "2."
6. Connect a second lamp to another lamp module in the same room. Set the red house code dial to "A" again, set the black unit code dial to "4," and turn the second lamp on-off switch until lamp goes on. Now you can control both lamps from the command console keyboard.

Remember to press "2" before commands to lamp "2," and press "4" before commands to lamp "4." After controlling both lamps, move the command console to another room and try it again.

SPECIAL LAMP CONTROL FEATURES

Local Control

Turn one of the lamps off from the command console keyboard. Remember that the lamp on-off switch is still in its "on" position. Go to the lamp and turn the on-off switch once (really to its "off" position), then once again (really back to "on"). The lamp should now be lit, without having used the console. This "local control" capability allows you to turn lamps on and off even when you are not near your command console. When working with three-way lamps, it may be necessary to work the on-off switch several times to turn the lamp on locally. This is normal. REMEMBER TO LEAVE LAMP ON-OFF SWITCHES IN THE "ON" POSITION TO RESUME REMOTE CONTROL.

Group Control

When lamps are connected to two or more modules, you can control them simultaneously as a group. Use the previous set-up with lamps "2" and "4." Press unit key "2," immediately followed by key "4," then DIM. Both lamps will turn on and dim together. In this way, you can control any size group of lamps (up to 16), such as any 3 of 5, 11 of 16, etc. Furthermore, you can change the grouping at will from the keyboard.

There is another easy way to achieve group control. Change the black unit code dial on lamp "4" to "2." Now, both lamp modules are set to unit code "2" and will respond to commands simultaneously. Thus, you can set up various "fixed" groups by setting identical unit codes for each group. This type of grouping allows you to control more than 16 modules. For example, if five lamp modules are set to unit code "1," there are still 15 remaining codes available. Therefore, you can set up a 20-location system, of which 5 work together as a group, and the remaining 15 operate independently. Obviously, the actual number of modules you can control from one keyboard may be much larger than 16.

Fig. 5A: | Appliance Module Details

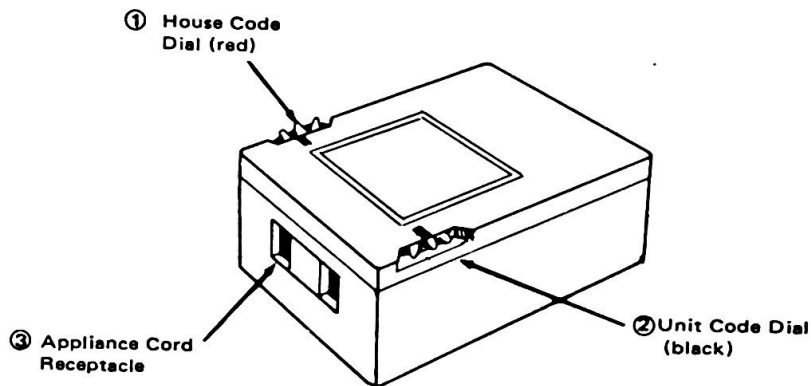
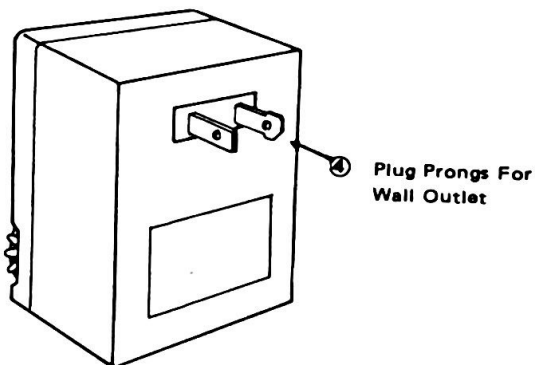


Fig. 5B: | Back of Appliance Module



APPLIANCE MODULE DESCRIPTION AND INSTALLATION

- Refer to Figs. 5A and 5B.

- ① The house code dial (red) is on the left. Set dial to *same* house code letter set on command console.
- ② The unit code dial (black) is on the right. Set dial to desired unit code, which corresponds to the same unit key number on the command console.
- ③ Plug appliance to be controlled into appliance cord receptacle on bottom of appliance module.
- ④ Then plug appliance module prongs into standard 120 Volt AC wall outlet.

IMPORTANT

APPLIANCES MUST NOT EXCEED THE RATINGS SPECIFIED ON THE APPLIANCE MODULE LABEL. CHECK THE RATINGS ON THE APPLIANCE BEFORE PROCEEDING.

Now turn appliance on-off switch to its "on" position. The appliance is ready to be controlled from the command console. Many appliances do not have on-off switches; simply plug them into appliance modules before plugging modules into wall outlets.

Polarized Wall Outlets

Most homes and offices have "polarized" wall outlets, with one of the receptacle prong holes larger than the other. Usually the left one is larger. The appliance module has one prong tip larger than the other to make certain it is inserted into a polarized outlet correctly. If a polarized outlet has been installed "upside down" or horizontally, rotate the appliance module until the prongs line up properly with the receptacle.

IF YOU DO NOT HAVE POLARIZED WALL OUTLETS, YOU MUST REPLACE THEM WITH POLARIZED OUTLETS IN ORDER TO USE THE APPLIANCE MODULES.

Three-Prong Appliance Plugs

**NOT RECOMMENDED FOR USE WITH
APPLIANCES HAVING THREE-PRONG PLUGS**

APPLIANCE MODULE OPERATION EXAMPLE

SET-UP

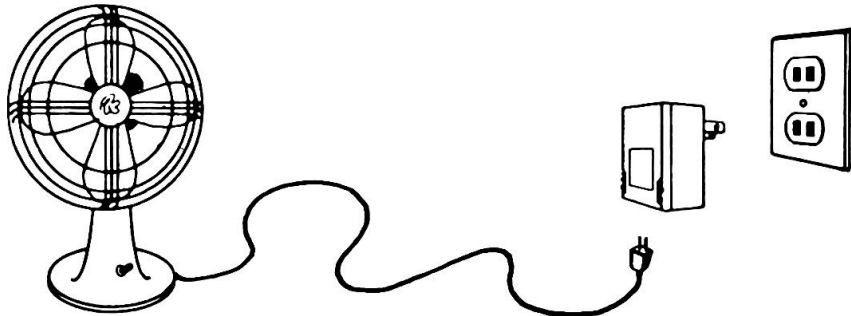
The set-up procedure for an appliance module is basically the same as the procedure for a lamp module illustrated in Fig. 4.

1. Set red house code dial on command console to "A," and plug console into convenient 120 Volt AC wall outlet.
2. Set red (left) house code dial on appliance module to "A" also.
3. Set black (right) unit code dial on appliance module to "5."
4. Plug appliance (Hi-Fi, TV, fan, etc.) into receptacle on bottom of appliance module.
5. Plug appliance module into 120 Volt AC wall outlet near appliance.
6. Turn appliance on-off switch to its "on" position (if it has an on-off switch).

OPERATION

1. Press unit key "5," then command key ON. Appliance will turn on.
2. Press OFF and appliance will turn off. The "click" you hear when an appliance module operates is normal.
3. Remember, if you press any other unit key between commands to appliance "5," you must press "5" again before sending control commands to appliance "5."

**APPLIANCE CORDS SHOULD BE REMOVED FROM APPLIANCE
MODULES BEFORE SERVICING THE APPLIANCE, OR WHEN LEAVING
ON VACATION.**



SPECIAL APPLIANCE CONTROL FEATURES

Fluorescent Lamps

Fluorescent lamps cannot be dimmed, and you should never use a fluorescent lamp with a *lamp* module. However, you can connect a fluorescent lamp to an appliance module to control the on-off function.

Incandescent Lamps

You can connect incandescent lamps to an appliance module, but of course you cannot perform dimming control. There is another advantage, however. You can connect a 500-watt lamp to an appliance module, whereas the lamp module is limited to 300 watts.

Local Control

Appliances can be turned on and off even when you are not near a command console. Simply work the appliance on-off switch once or twice and it will turn on.

TV SETS WITH AN "INSTANT ON" FEATURE CANNOT BE TURNED ON AND OFF WITH THE REGULAR TV SWITCH. USE COMMAND CONSOLE ONLY.

Other Appliances

Larger appliances, including humidifiers, floor and attic fans, etc., may be controlled with appliance modules. However, **READ THE POWER RATING LABELS ON SUCH APPLIANCES CAREFULLY TO MAKE CERTAIN RATINGS DO NOT EXCEED THE RATINGS PRINTED ON THE APPLIANCE MODULE LABEL:**

Resistive Load	15A
Motor Load	1/3HP
Incandescent Lamp	500W

**Fig.
6A:**

Wall Module Details

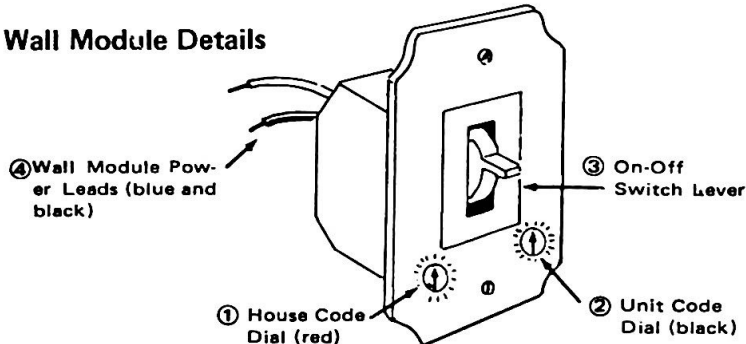
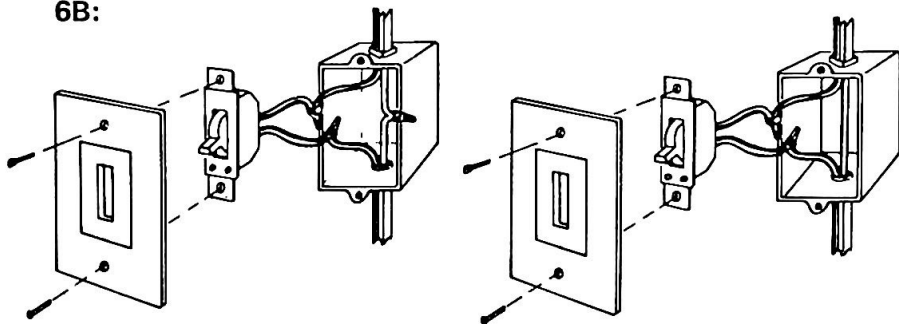


**Fig.
6B:**

Installation of Wall Module



IMPORTANT PRECAUTIONS

1. **DO NOT USE WALL SWITCH MODULES WITH APPLIANCES.**
Sometimes wall switches control wall outlets. **DO NOT USE A WALL SWITCH MODULE TO CONTROL A WALL OUTLET.**
2. **DO NOT USE WALL SWITCH MODULES TO CONTROL FLUORESCENT FIXTURES.**
3. **USE WITH INCANDESCENT LIGHTS ONLY, RATED UP TO 500 WATTS.**
Note that this is a higher rating than is permitted for use with a lamp module (300 watts).
4. **PUT SWITCH LEVER "OFF" (DOWN) WHEN CHANGING LIGHT BULBS.**

WALL SWITCH MODULE DESCRIPTION AND INSTALLATION

- Refer to Figs. 6A and 6B.

- ① The house code dial (red arrow) is on the left. Using a small screwdriver, turn dial slowly to *same* house code letter set on command console.
- ② The unit code dial (black arrow) is on the right. Turn dial slowly to desired unit code, which corresponds to an unassigned unit key number on command console.
- ③ The on-off switch lever must be "on" (up) so wall switch module can receive commands from command console. For local control, turn switch "off" (down) then back "on" (up); connected fixture(s) will turn on. **PUT SWITCH LEVER "OFF" (DOWN) WHEN CHANGING LIGHT BULBS.**
- ④ The power leads (blue and black) are used to connect the wall switch module to the house wiring as shown in Fig. 6B.

Install the wall switch module following Fig. 6B and these steps:

1. **TURN OFF POWER AT CIRCUIT BREAKER OR FUSE BOX BEFORE PROCEEDING.**
2. Remove existing wall switch plate, unscrew old switch from wall box, and disconnect wires from old switch.
3. Hold wall switch module so that code dials are toward the bottom. Then connect wall switch module power leads to same wires as old switch. If house wires are two different colors, connect black house wire to black wall switch module power lead. Use wire nuts as illustrated. Make certain connections are tight and bare lead ends cannot touch box in wall.
4. Screw wall switch module back onto wall box, replace wall switch plate, and put switch lever "on" (up).

WALL SWITCH MODULE OPERATION:

Your wall switch module operates connected light fixtures (located indoors and outdoors) in the same manner as a lamp module. Simply press the unit key assigned to the wall switch module, followed by the desired command key.

The wall switch module has the same special features as the lamp module, including local control (using module switch lever) and group control from the console keyboard. When using local control on the wall switch module, there will be a slight delay of approximately one second until the light goes on. This is normal operation. Since the wall switch module has a 500 watt rating, it is well suited to handle outdoor security floodlights.

Fig.
7A:

Cordless Controller Details

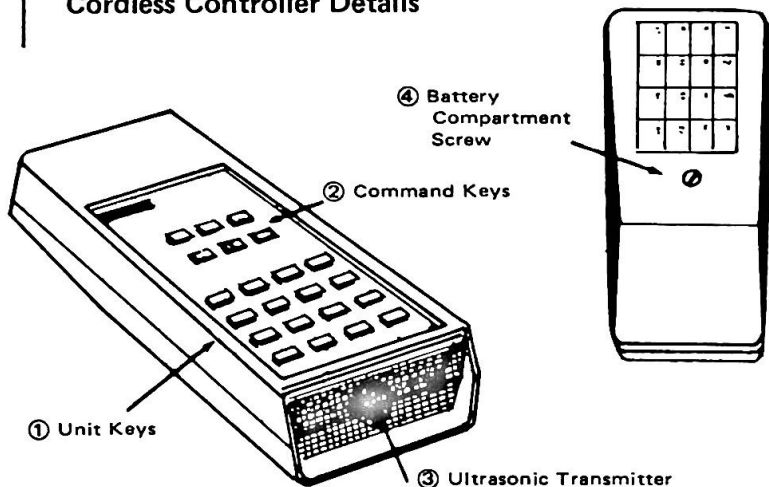
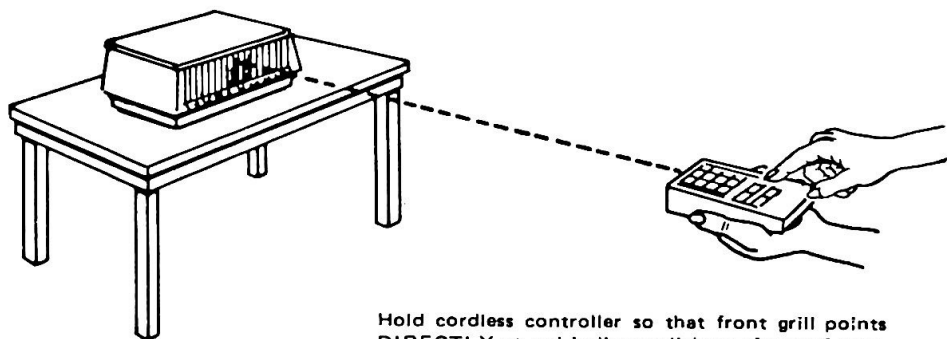


Fig.
7B:

Cordless Controller Operation



Hold cordless controller so that front grill points DIRECTLY at red indicator light on front of command console.

CORDLESS CONTROLLER DESCRIPTION AND OPERATION

- Refer to Figs. 7A and 7B.

The Cordless Controller is a battery-operated ultrasonic transmitter with a keyboard that duplicates all the keys on your command console. There are no code dials to set.

- ① The 16 unit keys correspond exactly to those on the command console. For example, if unit key "2" on the command console controls lamp module "2," then unit key "2" on the cordless controller also controls lamp module "2," etc.
- ② The 6 command keys perform the same functions as those on the command console.
- ③ The ultrasonic transmitter is behind the grill on the front.
- ④ The battery can be installed or changed after removing the screw on the bottom of the case, and carefully separating the two halves.
**USE A STANDARD 9-VOLT BATTERY. MAKE SURE BATTERY IS
INSTALLED BEFORE ATTEMPTING TO OPERATE.**

To operate your cordless controller, point its front grill **DIRECTLY** at the red control indicator light on front of a plugged-in command console. Press the unit and command keys **WHILE POINTING AT COMMAND CONSOLE**. (The ultrasonic waves are highly directional so the cordless controller *must* be pointed at the command console.)

**THE EFFECTIVE RANGE OF THE CORDLESS CONTROLLER IS
APPROXIMATELY 30 FEET. IT CANNOT TRANSMIT THROUGH WALLS,
GLASS, OR AROUND CORNERS.**

**CORDLESS CONTROLLER WORKS ONLY
WITH ULTRASONIC COMMAND CONSOLE
MODEL NO X10 - 014301**

COMMON-SENSE TROUBLE-SHOOTING

GENERAL

If you experience ANY difficulty, ALWAYS . . .

- Check that all plugs are firmly seated in their respective receptacles.
- Check that red (left) HOUSE CODE DIALS on all remote modules MATCH the red dial on the command console(s)
- Check that black (right) UNIT CODE DIALS on all remote modules have not been accidentally changed from the numbers you originally selected.
- Check that on-off switches of controlled lamps and appliances are "ON." (Appliances without on-off switches need only be plugged in.)
- Check that electric power is actually on, since a fuse or circuit breaker may have opened the circuit without your knowledge. To check, simply turn on a lamp or appliance.

INTERMITTENT OR OCCASIONAL DIFFICULTIES

Even though your system is working well, certain temporary conditions may cause apparent malfunctions. If you experience intermittent or occasional difficulties, ALWAYS . . .

- Check which household appliances are on AT THE TIME OF DIFFICULTY, especially those not being controlled. Electrical "noise" may be introduced temporarily onto the house wiring by some appliances. Such noise (possibly from electric razors, food blenders, vacuum cleaners, etc.) can interfere with signals transmitted by the command console, and frequently shows up on your TV screen as well. Fortunately, "noisy" appliances are usually used for short periods. NOTE: TV's, Hi-fi's, refrigerators, freezers, and air conditioners usually do NOT cause interference.
- Check the time of day AT THE TIME OF DIFFICULTY. Electrical noise may be introduced onto your house wiring from the neighborhood electrical power system. Such interference, if any, would be noticeable in early mornings and early evenings, when electrical usage is particularly heavy.
- Check if any previously installed dimmers are in operation (other than lamp or wall switch modules). Such dimmers tend to generate electrical noise. NEVER USE A LAMP OR WALL SWITCH MODULE TO CONTROL A LAMP OR FIXTURE HAVING AN EXISTING DIMMER.

IF THE ABOVE CHECK POINTS DO NOT SATISFACTORILY EXPLAIN YOUR INTERMITTENT OR OCCASIONAL DIFFICULTY, THEN PRESS "ALL OFF" WHEN THE DIFFICULTY ARISES, AND TRY CONTROLLING YOUR LIGHTS AND APPLIANCES ONE BY ONE UNTIL SATISFACTORY CONTROL IS ACHIEVED.

POWER INTERRUPTIONS

All electrical power systems are subject to voltage drops, interruptions, and failures due to power station problems, lightning, etc. These interruptions may last less than one second or many hours, and can cause appliance modules and connected appliances to turn off. If an appliance is unexpectedly off, or you know of or suspect a power interruption, PRESS "ALL OFF," AND INITIATE CONTROL OF CONNECTED LIGHTS AND APPLIANCES ONE BY ONE UNTIL YOUR SYSTEM IS RESTORED TO NORMAL STATUS.

INTERCOM SYSTEMS

Intercom systems which utilize existing home or office wiring can prevent proper operation of your remote control system. Such intercoms interfere with the signals transmitted from the command console to remote modules. Intercoms will interfere only when in use (a temporary problem), or when plugged in and left in the "talk" position.

Intercoms which employ their own separate wiring will not interfere with your remote control system.

You can control these lights and appliances . . .

USING THE LAMP MODULE

Bedside lamps	Swag lamps
Table and floor lamps	Desk lamps
Pole lamps	

USING THE WALL SWITCH MODULE

Ceiling light fixtures	Porch lights
Chandeliers	Outside floodlights
Track lights	Outside post-top lights
Garage lights	

USING THE APPLIANCE MODULE

TV sets	De-humidifiers
Hi-Fi systems	Coffee makers
Am-Fm radios	Miscellaneous table-top kitchen appliances
Fans	Lock out garage door motor
Humidifiers	Roof and pipe heating cables

. . . and many others you may think of!



BSR(USA)LTD., BLAUVELT,NY 10913